

USAWC STRATEGY RESEARCH PROJECT

Manpower Requirements Determination in the Institutional Army

by

James A. Cooke
DAC

COL Paul Brady
Project Advisor

The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 07-04-2003		2. REPORT TYPE		3. DATES COVERED (FROM - TO) xx-xx-2002 to xx-xx-2003	
4. TITLE AND SUBTITLE Manpower Requirements Determination in the Institutional Army Unclassified				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Cooke, James A. ; Author				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army War College Carlisle Barracks Carlisle, PA17013-5050				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS ,				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT APUBLIC RELEASE ,					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached file.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 28	19. NAME OF RESPONSIBLE PERSON Rife, Dave RifeD@awc.carlisle.army.mil
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			
				19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number DSN	
				Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std Z39.18	

ABSTRACT

AUTHOR: James A. Cooke

TITLE: Manpower Requirements Determination in the Institutional Army

FORMAT: Strategy Research Project

DATE: 28 February 2003

PAGES: 27 CLASSIFICATION: Unclassified

Unlike the program used to determine manpower requirements for the Army's war-fighting forces, which is doctrine based, reliable, and responsive to changes in strategic direction, the workload based manpower requirements determination program of the institutional Army has been declared a material weakness. This paper examines the history of the institutional Army's program in an attempt to identify key problems and makes recommendations to make the program more responsive to the Army's strategic decision process.

TABLE OF CONTENTS

ABSTRACT	III
LIST OF ILLUSTRATIONS.....	VII
MANPOWER REQUIREMENTS DETERMINATION IN THE INSTITUTIONAL ARMY.....	1
STRATEGIC IMPORTANCE OF ISSUE.....	2
HISTORY OF IA MANPOWER REQUIREMENTS DETERMINATION PROGRAM.....	3
MANPOWER SURVEY PERIOD	3
MS ³ PERIOD	5
12-STEP PERIOD.....	7
12-Step Process	8
Certification and Assistance Review.....	10
Army Workload Performance System.....	10
Civilian Manpower Integrated Costing System.....	11
CURRENT PROGRAM STATUS.....	12
RECOMMENDATIONS	14
HOLD THE COURSE	14
CENTRALIZE THE ORGANIZATION OF THE PROGRAM.....	15
LINK RESOURCES AND MISSION.....	16
CONCLUSION.....	17
ENDNOTES.....	19
BIBLIOGRAPHY	25

LIST OF ILLUSTRATIONS

FIGURE 1: INSTITUTIONAL ARMY REQUIREMENTS.....	1
FIGURE 2: 12-STEP PROCESS.....	9

MANPOWER REQUIREMENTS DETERMINATION IN THE INSTITUTIONAL ARMY

In 1997, the Secretary of the Army declared the Army's inability to determine its manpower needs in its generating forces a material weakness.¹ The generating forces, known as the institutional Army (IA), are the forces which "access, organize, train, equip, maintain, project, redeploy, and restore" the Army's war-fighting or operational forces.² The declaration formally recognized a flaw at the roots of the Army's resource management and force development functions that had been growing, at that point, for over twenty-five years and which has not yet been resolved. While, through the years, the problem has been the focus of Congressional interest, numerous Government Accounting Office (GAO) reports, and several Army initiatives to correct it, no lasting, workable solution to the weakness has been achieved.

The declaration is both alarming and hard to comprehend. It is alarming because of the magnitude of the Army forces it impacts. The IA constitutes nearly half of the Army's total force structure, (i.e., active, reserve, and civilian components), 497.8 thousand requirements, to include 276.7 thousand military and 221.1 thousand civilians.³ Further, it consumes over half of the Army's total budget.⁴ It is hard to understand because, during the same period that it has allowed its determination of IA manpower needs to falter, Army has demonstrated the importance it accords to the necessity for requirements determination by building a credible and reliable program for war-fighting forces. In fact, GAO lauded the operational Army's program as "a rigorous and comprehensive process for determining force requirements".⁵

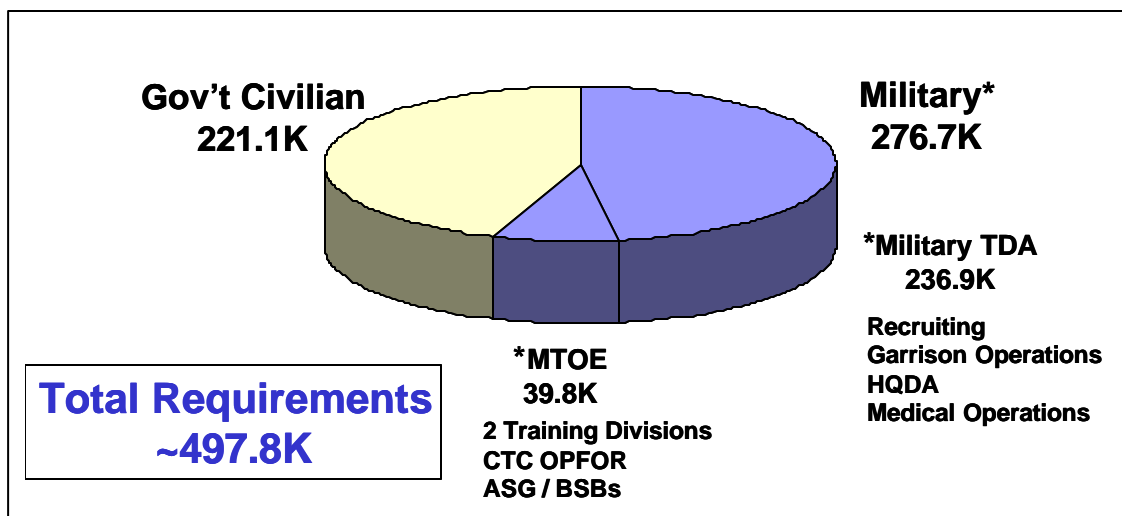


FIGURE 1: INSTITUTIONAL ARMY REQUIREMENTS⁶

This research effort examines the history of the IA manpower requirements determination program, from its inception in the early 1970's through 2002, in an attempt to identify the causes for the program's current deficiencies. Additionally, it looks at and tries to evaluate current efforts to revitalize the program. Finally, it offers some recommendations, based on this research effort, on how to restore soundness to the program.

STRATEGIC IMPORTANCE OF ISSUE

From a resource perspective, today's Army is being pulled in many directions. The changing face of threats in the post-Cold War world requires that it transform and adapt its capabilities to ensure it can deter future enemies of the country. The new threats of global terrorism being perpetuated through transnational actors and supported by rogue states require forces with higher degrees of speed, agility, and adaptability that current capabilities cannot deliver.⁷ Development of these new capabilities will require enormous investments of resources in new equipment, new doctrine, and new training, as well as manpower to see the transformation process to fruition.⁸ At the same time, though, the Army must maintain its current capabilities to meet the threats and demands coming from around the world today. The Army is faced with immediate needs to provide a defense of the nation against terrorism, to contain or deter imminent threats from Iraq and North Korea, and to support a host of other operations worldwide.⁹ These demands also require enormous resources to man and sustain current forces and to maintain existing, aging, equipment.¹⁰ Compounding this dilemma, Army has to both evolve and maintain within constrained annual budgets and personnel limitations, which have diminished significantly since the Cold War ended.¹¹

In such an environment, maintaining balance, while gaining ground on future objectives, requires complex decisions on how to allocate resources and an understanding of the risks inherent in those decisions. With limited resources, well below the level needed just to maintain status quo, and faced with the need to transform and modernize existing capabilities, allocation decisions become more than just a task of spreading resources across Army functions. Complicating such allocation choices is the fact that each of Army's functions has a level of resource needs that enable it to operate at its optimum capability and each must be considered in any transformation or modernization scheme. Further, the degree to which any of the functions is decremented from its full resource needs, either to provide increased resources in another area or to resource new initiatives, creates a risk that the function will not be capable of performing its missions consistent with qualitative or quantitative goals. Thus, every choice to

support one set of Army needs versus another injects a level of risk of mission failure or degradation where needs are slighted. Strategic leaders must be able to assess this level of risk when making resource allocation decisions.¹²

Optimally, a requirements determination program should do two things to support strategic leadership in making allocation decisions and assessing risk. First, it should identify the minimum resources needed to effectively accomplish assigned mission or workload in the most efficient manner. It should do this using a methodology that is consistent, comprehensive, programmable, and verifiable. Second, it should be able to describe what capabilities are lost when those needs are not resourced.

Given the environment being faced by Army's leadership, a material weakness in the IA manpower requirements determination program makes a strong statement regarding our ability to assess risks and make decisions with confidence. The fact that the program fails to provide such information for half of the Army's manpower, at a time when critical decisions are pressing, makes this an issue with broad operational and strategic implications.

HISTORY OF IA MANPOWER REQUIREMENTS DETERMINATION PROGRAM

The evolution of the Army's manpower requirements determination program for the IA can best be described as a hit-and-miss affair nudged along by outside pressures. The Army has focused on the program when budget reductions, political pressures, or audits forced it to do so. Characteristically, the Army's response to such outside forces has been to announce and implement a new emphasis and direction for the program, only to allow the efforts to dwindle, or be redirected, as time diminished the level of concern and commitment.

The following summary of the program's history divides the period from the early 1970's until 2002 into three periods, associating each period with the requirements determination process that was predominate in that period. This association is made only for ease of understanding. Actually, manpower survey methodologies were used throughout all three periods and manpower staffing standards system (MS³) methodologies were employed during the 12-Step period.

MANPOWER SURVEY PERIOD

Prior to the early 1970's, the Army had no hint of an integrated program at the Department level to determine or control IA manpower requirements.¹³ Faced with the need to reorganize and downsize the headquarters in the early 1970's, the Army designated a manpower

management policy responsibility within the Deputy Chief of Staff for Personnel, which included responsibility for establishing IA manpower requirements determination policy. While it was a first step, there was no follow through on the initiative. Headquarters offices tasked with the new responsibilities were not adequately staffed to accomplish them and operational control of manpower and requirements determination functions remained divided among Department staff elements. Further, no effort was made to extend any restructuring of the program below the Department level.¹⁴

Throughout the 1970's, while the Department limited its role in the IA manpower requirements determination program primarily to writing policy, major Army commands (MACOMs) implemented the program through manpower surveys of their own organizations.¹⁵ The surveys consisted of periodic on-site organizational assessments aimed at developing a recommendation of manpower needed to perform all of an organization's functions.¹⁶ In simplest terms, the assessments consisted of manpower analysts questioning workers on what they did and how long it took them and, from those interviews, determining what manpower was needed. While the surveys did make some positive attempt to quantify resource needs, they suffered from several major drawbacks. First, due to resource constraints, surveys were often accomplished by under staffed and under trained MACOM manpower programs¹⁷. Second, due to lack of an Army-wide emphasis, surveys were conducted without standardized, procedural guidance that could produce consistent findings.¹⁸ Third, since they were organizationally oriented, surveys were difficult to align with budgeting requirements, which were oriented toward financial accounting systems. Further, the surveys produced a one-time, snapshot of an organization's manpower needs, which could not respond to or account for workload or structure changes after the survey.¹⁹ The results of these drawbacks meant that surveys were, typically, subjective efforts that failed to provide necessary information for programming or budgeting IA manpower needs.²⁰

During this period, attempts were made to standardize and strengthen the consistency of survey team efforts through the production and employment of staffing guides. The guides depicted recommended organizational structures for performing the work of a function; descriptions of the work; and tables that showed recommended manpower at varying levels of workload. The guides, though, were developed from findings and trends in previous surveys and, thus, provided only historical patterns of staffing.²¹ Moreover, due to Army's inclination to allow commanders to organize and utilize IA manpower in the manner they deemed most effective, the guides often differed from the actual organization of functions.²² Thus, the guides

were used primarily as a point of departure during surveys.²³ They were not considered as either prescriptive or authoritative.²⁴

Some very limited efforts were also made, during the 1970's, toward development of staffing standards, which would have incorporated the use of engineered time measurement techniques.²⁵ The Army Comptroller, head of the financial management function, had directed the development of standards for determining IA requirements as early as 1975; however, neither directions on how to conduct the effort nor staffing to support the effort were provided. Thus, the efforts that were made by MACOMs were tenuous and isolated. Some work was accomplished to build standards for singular work centers or directorates; however, no attempt was made to establish standards for similar functions across MACOMs or Army.²⁶

By the end of the 1970's the MACOM survey programs had come under scrutiny of Army leadership and Congress. Studies and audits initiated from both sides highlighted Army's failure to establish an integrated program at the Department level, which could establish procedures for and monitor the results of subordinate command programs in determining IA manpower requirements. GAO reports to Congress also honed in on the inadequacies in the manpower survey programs being conducted by MACOMs and recommended movement by the Army toward the development and use of workload based manpower standards.²⁷

The recommended standards approach differed from surveys in several aspects. First, it focused on manpower needed to perform similar functions across a number of organizations at different locations. This ensured that manpower needed to perform any function would be based on standard criteria, not individual assessments separated by time and location as surveys were. Second, it required identification of a driving factor, or workload factor, to which increased needs in manpower could be attributed and which could be used mathematically to relate manpower needs to work. This ensured that standards, unlike surveys, would be responsive to changes in workload over time and could be programmable, or predictive of future manpower needs. Third, the approach incorporated statistical parameters. This, unlike surveys, allowed measurement of the degree of accuracy, or predictability, of the assessment of manpower needs. Finally, because of its functional orientation, instead of the organizational orientation of a survey, the approach facilitated alignment with budgeting activities.

MS³ PERIOD

In response to leadership's focus on the existing program's shortcomings, there was a flurry of activity during the early 1980's to establish a viable IA manpower requirements

determination program. Standards and efficiency review programs were established and consolidated in a new lead agency, the US Army Manpower Requirements Determination Agency (USAMARDA).²⁸ The Army invested hundreds of manpower authorizations and other resources in the program.²⁹ Further, new organizations were established at the MACOM level to implement the program.³⁰ Work had begun, in earnest, to develop Army-wide standards for staffing IA functions.

While survey teams continued to be operated by the MACOMs, USAMARDA took on an Army-wide leadership and oversight role with respect to the standards program. It determined priorities and established goals for standards development; prescribed and enforced the methodologies and procedures used; scheduled MACOM efforts on the studies; and evaluated and approved MACOM input. Additionally, it took on the headquarters staff coordination, representation, and point-of-contact roles for the program.³¹

Through the mid-1980's to the beginning of the 1990's, the manpower staffing standard system, also known as MS³, built standards to cover an estimated 51%, over 110,000, of IA manpower requirements that were determined to be subject to measurement by standards.³² The system was operated under a highly detailed and sophisticated regimen, captured in Army regulation 570-5, which covered every aspect of developing functional standards from the concept stage through application and maintenance of standards once developed. Additionally, an extensive training program was established to ensure analysts acquired the skill and abilities required by the system.³³ Also, an effort was begun to functionally categorize every required position on the IA's table of distribution and allowance (TDA) documents.³⁴

Still, by 1994 the MS³ effort had virtually been eliminated at all but two of the MACOMs and their programs were only shadows of the initial effort.³⁵ Further, responsibility for developing standards, which could measure IA requirements on a workload basis, had again been pushed from the Department level to the MACOMs, with the Department again assuming only the policy development role.³⁶

There were a number of factors that appear to have played into the demise of the Army's MS³ program. The primary three, though, centered on disagreements on the program between Department level staff elements; failure to properly employ the standards to highlight areas for manpower reductions; and the inability of the Department to stand by an investment long enough to see returns.

First, there was never complete agreement on the Army staff for the need to establish an IA workload based manpower requirements determination program, despite Congressional

emphasis to do so. The financial management function in the Department opposed the standards program as adding no value and even recommended placing the program's accomplishment on a reimbursable basis, which commanders would have had discretion to use or not. Financial management's proposal was to let available funding, not workload or valid mission, determine manpower levels.³⁷

Second, the very nature of how standards work put the program at odds with the downsizing efforts of the late 1980's and early 1990's. Standards measured the requirements needed to accomplish a functional mission at varying levels of workload but the manpower and funding reductions of the period were not framed as reductions to mission and, thus, could not be translated to reductions of functional workload. Instead, the reductions were predominately implemented across Army as proportional cuts based on the size, in terms of funding or manpower, of the MACOM or its activities.³⁸ Thus, the standards in place could not reflect decreases in manpower needs and, in some cases, depicted increased staffing requirements.³⁹ These increases resulted from unadjusted but still programmed missions and workload that were left on the books.⁴⁰ The overall effect of this was that the standards appeared useless in deciding how or where to take reductions.

Finally, the standards development process, still ongoing when the resource reductions began, was labor intensive and time consuming.⁴¹ While upkeep of the standards, once developed, would have been accomplished with reasonable expenditures of manpower and time, the nature of the development phase gave the appearance of a lot of people, spending a lot of time, and not achieving much. This appearance of ineffectiveness invited reductions to be targeted at the program. Moreover, the program received no protection from the Department, which allowed the MACOM leadership to levy reductions against the program.⁴²

Thus, in 1997, with the MS³ program dismantled, with no acceptable Army-wide alternative and faced with the inability of the Army to consistently and accurately determine its manpower requirements for the IA, the Secretary of the Army was forced to declare the IA manpower requirements determination process a material weakness for the Army.

12-STEP PERIOD

Once again, as it had almost twenty years before, the Army began a flurry of activity to establish a creditable way to determine its IA manpower needs. A plan was established to resolve Army's material weakness, with key elements to be implemented by a new field operating activity of the office of the Secretary of the Army for Manpower and Reserve Affairs

(ASA(M&RA)), the U.S. Army Manpower Analysis Agency (USAMAA). The plan was built around four basic elements. First, a new workload-based requirements determination process, termed the 12-Step process, was to be incorporated into an update of the Army's manpower management regulation, Army Regulation 570-4, and implemented Army-wide. Second, USAMAA was to conduct a review, termed a Certification and Assistance Review, of the existing programs of each MACOM for compliance with the 12-Step process and to establish a basis for performing continuing quality assurance checks of MACOM programs and products. Third a new automated workload projection system, the Army Workload Performance System (AWPS), was to be implemented at Army depots, arsenals, and ammunition plants to enable projection of manpower needs. Fourth, an integrated, Army-wide database, the Civilian Manpower Integrated Costing System (CMICS), was to be established for costing civilian IA authorizations and linking the workforce to the budget.⁴³

12-Step Process

The new 12-Step process made its debut in Army Regulation 570-4 in May of 2000; however, it was actually adopted by Army in 1996 and was beginning to be implemented by MACOM programs as early as 1998.⁴⁴ The process did not prescribe a technique for determining manpower requirements such as organizational assessments under manpower surveying or functional assessments under MS³. Instead, it embraced a variety of techniques, placing emphasis on the accuracy and validity of the results.⁴⁵ Billed as a "logical framework", the process's aim was to ensure that all critical factors had been considered in any assessment of manpower needs.⁴⁶ These factors were defined in twelve areas, or steps, shown in Figure 1, which if included in any determination of manpower requirements for the IA, would ensure requirements were workload-driven, were based on valid mission, were programmable, were based on minimum and best mix of manpower, and were descriptive of the needs of an efficient and effective organization or function.

Conduct of the IA manpower requirements determination program under the 12-Step process was passed to the MACOMs for all of their subordinate activities. USAMAA administered the program for the Department, its field operating activities, staff support activities, and the MACOM headquarters.⁴⁷

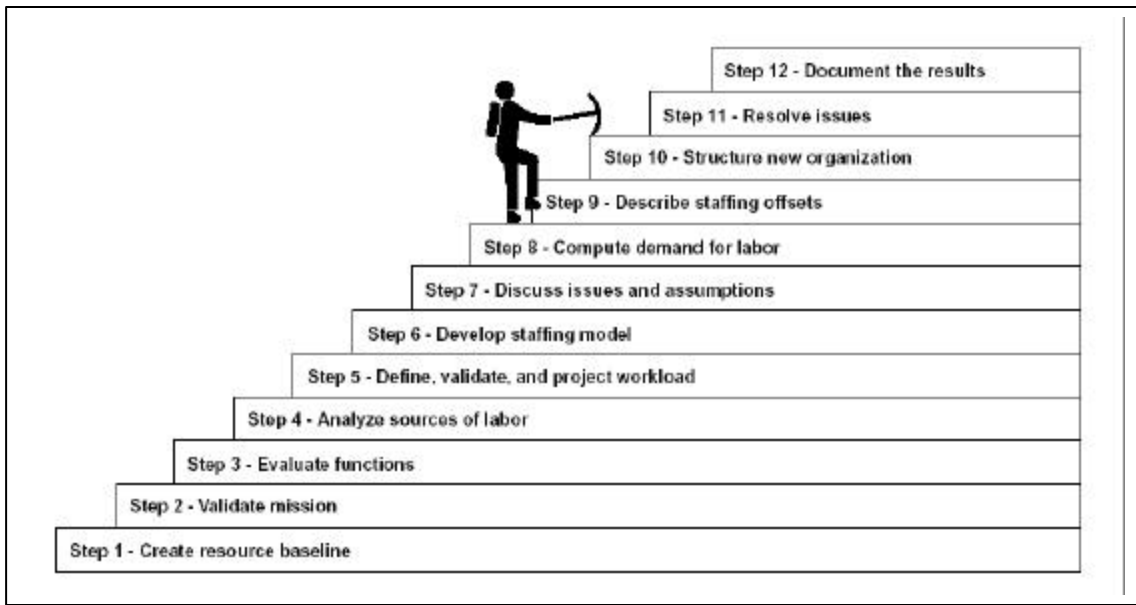


FIGURE 2: 12-STEP PROCESS⁴⁸

The process itself had definite strengths but its implementation failed to consider the manpower strapped environment in which MACOM IA manpower requirements determination programs were operating. First, the process provided consideration of past successful program efforts. Since the process was based on an analytical framework, much of the work of the MS³ period, which incorporated the 12-Step's criteria for validity, had the potential to be salvaged. This meant that MACOM programs would not have to throw away years of work invested in MS³ products, which covered the majority of current requirements, and, thus, would have a foundation from which to move forward. The MACOM programs, however, no longer had even a hint of the staffs that had created the MS³ standards and the standards in existence were old and in need of update. Second, the process included a reporting requirement that could aid in ensuring the quality of assessments. One of the key components of the 12-Step process was a report, which analysts were required to prepare at the conclusion of each assessment. The report required detailed information on the activity or function assessed, which demonstrated incorporation of the 12-Step analysis. The strength of this reporting component was that it provided a view into the factors behind the analysis and, thus, increased the quality of the final product by making the analysis auditable. The preparation of the report, though, added significantly to the time required for an assessment, diminishing the capability of the already under-manned programs. Finally, the process required that analysts conducting 12-Step

assessments be trained and certified in the application of the process. This was a critical element, since all other formal training in requirements determination had been terminated with the end of the MS³ period and turnover in MACOM staffs had significantly reduced the number of analysts with an MS³ background. The certification, though, was only obtained by sending analysts from the MACOM program to be trained and to work on a recurring basis in support of USAMAA efforts, which meant further degradation of MACOM program staffing.

Certification and Assistance Review

USAMAA's review of MACOM requirements determination programs began in 1998. The review, billed as a certification process, consisted of three elements. The first element was a comparison of the results of MACOM criteria for determining requirements to results achieved by USAMAA analysts employing the new 12-Step process.⁴⁹ This test of the MACOM's criteria was conducted against a random selection of 2% of the MACOM's work centers below the headquarters level. To a great extent, if the MACOM's assessment of requirements was close to the assessment made by the USAMAA analysts, USAMAA certified the MACOM's methodology. Where there were substantive differences the MACOM was advised that there was a problem that needed to be addressed. The second element was a manpower survey of the MACOM headquarters, conducted by USAMAA, using the 12-Step process. This was not a comparison of results but an actual determination of headquarters staffing.⁵⁰ The third element was an ongoing quality assurance check on the MACOM program. This consisted of submitting to USAMAA for approval any new requirements determination criteria developed by the MACOM and any proposed changes to the staffing of the headquarters.⁵¹

A comparison of 2% of base support work centers was also planned but was cancelled, due to ongoing actions to contract base support activities and, later, actions to transfer the base support function from MACOMs to the Assistant Chief of Staff for Installation Management (ACSIM).

Army Workload Performance System

The third element in the plan to resolve Army's material weakness in IA manpower requirements determination was focused on Army's industrial facilities, its maintenance depots and manufacturing arsenals. Since these activities passed the costs of their operation on to customers and, to some extent, relied on their ability to be competitive, management of the manpower needs in these activities required the ability not only to determine overall manpower

requirements based on projected workload but, additionally, to be able to distinguish the direct and indirect components of the labor; to be able to determine the variability of indirect overhead labor; and to be able to evaluate the impact of these factors on costs. These further complications necessitated automation support that would allow manpower to be related to various direct and indirect tasks associated with programmed workload.

AWPS was implemented to meet the more detailed requirements determination needs of the Army depots and arsenals. Operation of AWPS, which began to be implemented in 1996, was underway at five Army maintenance depots and undergoing system enhancements by 1998.⁵² By October 2001 the Secretary of the Army had directed the use of AWPS in other Army activities, to include medical and base support.⁵³ The automated system, developed from a modified system used in Navy shipyards, integrated performance measurement control, workload forecasting, and workforce forecasting in support of determining personnel requirements.⁵⁴

Civilian Manpower Integrated Costing System

The final element in the plan to resolve Army's material weakness in IA manpower requirements determination was aimed at developing a system that could link the funding provided for civilian manpower with the authorizations for civilian manpower, which were allocated against manpower needs. The importance to manpower requirements determination of the ability to establish this linkage was fundamental. Since determination of manpower requirements started with a baseline of manpower available to accomplish current workload, unencumbered authorizations, that is, positions for which no personnel had been hired for extended period of time, tended to indicate overstated requirements. The widespread practice of diverting civilian manpower funding from authorized civilian manpower to other operational needs, though, undermined the ability to make this basic assumption. A work center could have a valid need for civilian manpower and an allocation to back up the need but no funding to hire employees to accomplish the workload because the funding had been diverted.

The ASA(M&RA) managed CMICs system, prototyped in 1997, was developed to allow Department and MACOM leadership to link civilian authorizations with funding to ensure affordability of the manpower program. This web-based system was fully implemented at the Department level by 1999⁵⁵, and deployed between the Department and MACOMs by 2002.

Additionally, it served as a vehicle for MACOMs to submit manpower reprogramming to the Department.⁵⁶

CURRENT PROGRAM STATUS

At the writing of this paper at the first of 2003, the initiative to resolve the material weaknesses in the IA manpower requirements determination program was already unraveling. The USAMAA certification of MACOM programs, one of the key components of the plan to address the material weakness, had already been terminated. The delineation of which headquarters staff element had oversight of the program and its direction was again becoming clouded. The Department was challenging the integrity of the manpower requirements determined by the program but doing nothing to provide clear, consistent direction on how it wanted the program conducted. Finally, the MACOMs, now, had responsibility not only for conducting the program, without guidance, but for defending its results as well.

Initial review of the USAMAA MACOM certification effort, reported by GAO in 2001, indicated that USAMAA was falling behind planned timelines and that early results from three completed reviews indicated MACOM overstatement of requirements by as much as 22%. While GAO did conclude that slippage in meeting timelines was due to a combination of staffing shortages within USAMAA and the magnitude of the certification effort, it did not attempt to account for the large discrepancy between USAMAA measured and MACOM reported requirements. Instead, GAO extrapolated the difference seen in the first three MACOM reviews and concluded that, at its extreme, the difference would account for the total difference between all IA requirements and authorizations. Moreover, based on the extrapolation, the report indicated that up to 16,000 authorizations could be freed from the IA for Army-wide reallocation or savings.⁵⁷

Faced with a reported 45,000 authorization to requirements shortfall in war-fighting forces and a GAO report that surmised that part of that shortfall could be remedied by corrections in overstated IA requirements, the Department's office of the Deputy Chief of Staff, G-3, moved on the information.⁵⁸ Initially, the direction of the office of the G-3 was to assert responsibility for IA requirements development and approval, though by Army regulation 570-4 this was an ASA(M&RA) responsibility.⁵⁹ Further, the office of the G-3 proposed arbitrary deletion, without review, of the majority of IA requirements over authorized levels.⁶⁰

Response to the office of the G-3 action was mixed. In concert with the claim of G-3 oversight responsibility, USAMAA efforts to complete its certification of MACOM programs

permanently ceased.⁶¹ This resulted in several small MACOMs not being reviewed and, effectively, cut off part of the Army's published plan to correct the material weakness in IA manpower requirements determination before it was completed. The G-3 action to reduce IA requirements to authorized levels was abandoned, though, when it met resistance from MACOMs, USAMAA, and offices within the ASA(M&RA). These activities argued that the G-3 action failed to acknowledge requirements validation processes conducted by USAMAA, workload backlogs that drove IA manpower requirements over authorized levels, and Congressional requirements to manage IA requirements on the basis of workload.⁶²

Although by February 2003 GAO was backing away from the basis of its extrapolation-based claim that IA requirements were overstated, momentum within G-3 to fix the IA requirements problem was locked. In its report, "Army Needs to Address Resource and Mission Requirements Affecting Its Training and Doctrine Command", GAO expressed concern over TRADOC's ability to accomplish its mission given increasing workload and declining resources.⁶³ Further, the report indicated that TRADOC's determination of requirements appeared to be based on a "rigorous" analytical process.⁶⁴ These were the same requirements, determined through the same assessment process, which had been the basis of the GAO report, which indicated IA requirements were overstated. Still, G-3, by this time, was set on taking "control" of the IA requirements problem and had already initiated plans to address the problem through the Total Army Analysis process (TAA), over which it had oversight.⁶⁵ Work began to train Department-level personnel from various functional areas to lead TAA panels that would "validate" IA requirements during TAA-11. Under the G-3 plan, MACOMs would be required to present and defend their requirements determination criteria before the panels for approval. USAMAA's role was to serve in support of panels providing advice and "insightful" questions on the criteria presented for approval to the panel.⁶⁶

Thus, thirty years later, the IA manpower requirements determination program is close to where it began. ASA(M&RA) has established policy for the program but USAMAA, the activity charged with policy execution, is performing a support role, not a leadership role, in determining the validity of the program's products. The program's future is once again caught between Department level staff elements. There are Department-level expectations for the results of the program but no guidance on how to achieve them. The responsibility for the conduct of the program and defense of its results rests totally with the MACOMs. The only difference is that the program is now a declared material weakness.

RECOMMENDATIONS

While the current inclusion of IA forces in TAA is a positive step because it forces Army leadership to expand its focus to the total Army, the effort will do nothing to address the material weakness in the IA manpower requirements determination program. The TAA process is the point in the force development process where requirements and allocation decisions come together. The actions that take place during TAA are approval of the requirements and resource decisions. The process does not determine requirements but utilizes the products of requirements determination processes. TAA panels are no more capable of fixing problems in IA manpower requirements determination processes than they would be at fixing problems in the development of Tables of Organization and Equipment (TOEs) or fixing problems in the testing, experimentation, or studies that underlie war-fighting concepts. The panels can surely refuse to use the products but such refusal does not fix anything.

IA manpower requirements determination is on-the-ground, on-site work concerned with ensuring the function being accomplished is linked to a valid mission; measuring and quantifying the work using sound techniques; developing consistent, accurate, programmable models to fully depict the relationship between manpower and workload; recommending the best manpower mix and organization for accomplishing the workload; and providing a view into the analysis behind these steps that can be audited by outside sources and which facilitates connection to Army program and budgeting efforts. Until the environment in which these actions happen is addressed, the current material weakness will likely continue.

Based on this research effort, there appear to be three things Army needs to do to address the problems of the IA manpower requirements determination program. Two deal with the environment in which the program operates. The third deals with the relationship between resources and mission, which, while outside of the program's scope, contribute heavily to the weakness attributed to the program.

HOLD THE COURSE

If the history of the IA requirements determination program shows anything, it definitely highlights the haphazard management of the program over the last thirty years. Army needs to pick a direction for the program and hold the course. This simple, straightforward recommendation is probably the most important. Enough time, money, manpower, and effort have been thrown away.

The 12-Step process incorporates the techniques needed to accomplish manpower requirements determination and sets the basis for improving the quality of assessments. The

areas in which the program is weak can be improved. What it needs to succeed is investment in manpower and systems, the right organizational structure, and support from Army leadership for more than a year or two.

CENTRALIZE THE ORGANIZATION OF THE PROGRAM

The work of the IA manpower requirements determination program needs to be centrally managed by a Department level organization. The current decentralized organization, where the Department level sets policy and the MACOMs oversee the conduct of the program, fails to ensure the integrity of the program, allows MACOM emphasis on the program to set its course, and undermines Army leadership's confidence in the program's products. The history of the program highlights this and echoes advice provided in the early years of the program when GAO recommended that Army design its program as:

"An organization structure that combines the manpower related responsibilities and staffing into one organization at all levels. The organization should centralize manpower control, eliminate duplication, and establish a manpower review function independent of those being reviewed. The staffing standards organization could be located at the commands for developing and updating standards but should be responsive to criteria and procedures directed by Army headquarters."⁶⁷

Since the program serves a measurement tool for the Army, its calibration, across all of the program's elements, is essential in producing accurate, consistent results. This requires that procedures, techniques, and parameters are uniformly applied in measurement and metric building efforts and that analysts employed in the effort are trained to standard levels of competence. Centralized management can ensure this level of program integrity. History, however, shows that this requirement is not met by decentralized efforts. Program integrity was so poor at the outset of the USAMAA's certification reviews that each MACOM program had to be asked by the Department to explain how its program accommodated the elements of the 12-Step process.⁶⁸ Moreover, an audit conducted in the early stages of the review found the individual MACOM programs differed "substantially in coverage and content."⁶⁹

Centralized management can ensure that neither the program nor its resources are subject to the emphasis that MACOM leadership places on the program. The history of the MS³ program demonstrates what can happen to the program in a scenario of decentralized management and unfavorable MACOM attitudes toward the program. Resources are simply removed until the program is so ineffective that it is terminated. To this point, in 1991, there were 301 MS³ analyst authorizations being utilized by MACOMs to develop standards but by

1995 those authorizations had been reduced by the MACOMs to 142 with only 42 reported as still involved in standards development work.⁷⁰

Finally, the current declaration of the program as a material weakness is rooted in the lack of confidence Army's leadership places in the program. Part of that mistrust springs from the huge difference between requirements and authorizations but, to a greater degree, it is based on the fact that functional proponents, the MACOMs, generated those requirements through programs they oversee. Hence, the need for Department level TAA panels to challenge the basis of the requirements. Such lack of confidence, however, could be greatly alleviated by a centrally managed program, independent of MACOM influence. Additionally, since the determination of manpower requirements does not require program analysts to have functional expertise in order to perform their work, a centrally managed program would not adversely affect determination of MACOM manpower needs.

LINK RESOURCES AND MISSION

There was a 142,000 difference between IA requirements and authorizations identified during TAA-07.⁷¹ The sheer size of this difference, combined with the fact that the IA continues to operate, plays a large part in the current designation of a material weakness in the manpower requirements determination process. This difference cannot, however, be totally attributed to failings in the determination of needs. A more important factor in this problem is the failure of Army to build a linkage between resources and mission to match the linkage that already exists between mission and requirements and the linkage that exists between requirements and resources.

There is a firm linkage between mission and requirements. The manpower requirements determination program quantifies the workload associated with formal missions and determines the time needed to accomplish that workload. The relationship between workload and time needed to accomplish it then is used as the basis for determining manpower requirements at varying levels of workload. As workload changes, requirements are adjusted and as mission changes, new assessments are conducted to establish new workload to time relationships.

There is also a firm link between requirements and resources. The importance of the linkage from requirements to resource systems has been recognized from the earliest days of the program and has been incorporated into current methodologies. Difficulty in translating requirements changes to facilitate the update of the Army's Planning, Programming, Budgeting and Execution System (PPBES) was one of the survey program's chief faults. That problem

was addressed under the MS³ and 12-Step methodologies and corrected. Today, manpower requirements are assigned the proper financial management and accounting codes when they are determined and requirements determination models are constructed to accommodate differing financial categories. Additionally, annual updates of workload are applied to the models and resulting requirements changes, with proper coding, are updated in The Army Authorization and Documentation System (TAADS), the manpower entry point into PPBES.

No true linkage exists, however, between resources and mission. Resources have been falling since the close of the Cold War but missions, for the most part, have either not been adjusted or have been increased.⁷² Given this situation, the Department has two ways to go. In order for workload-driven manpower requirements to reflect resource decreases, missions have to be associated with the resource reductions and tasks within the missions have to be identified for either total elimination or degradation of some mission tasking requirements. Otherwise, the 142,000 requirements over authorizations has to represent the difference between what manpower Army can afford and what it needs to accomplish the missions it says it has to do.

CONCLUSION

The current situation in the IA manpower requirements determination program requires the attention of Army leadership. In the resource environment faced today, the information that could be provided by a rigorous and comprehensive program is critical. The focus on the program, though, must be based on a perspective of how the program actually works, where the program is now, how it got there, what its real problems are, and what it will take to fix them.

IA manpower requirements are established through extensive, time-consuming manpower studies that apply work measurement and analytical techniques and procedures to establish manpower needs and relate them to workload. The validity of the outputs of these studies rests with the soundness of techniques and procedures used as well as the skill and training of the analysts who apply them. These areas need to be the focus of any attempt to add rigor and accuracy to the determination of valid IA manpower needs. Attempts to establish the validity of the outputs through TAA panels misses the point and could result in IA manpower needs being based on the quality of persuasive arguments or rash decisions.

The program, today, is operating on an under-manned and poorly organized basis that misplaces responsibility for its operation. Army needs to invest the manpower and resources to make the program viable. It needs to organize the program so that the responsibility for ensuring the quality and standardization of the program's products rests with a central,

Department-level organization. MACOMs should not be the determiners or the defenders of their own requirements. It should be the headquarters responsibility to determine requirements just as it is the headquarters responsibility to determine mission.

The IA manpower requirements determination program has for years suffered shortsighted, haphazardly applied attempts to make it sound. The result has been that the program is now judged a material weakness. If the history of the program shows anything, it surely shows that Army needs to decide on a plan of action for the program and hold to it through continued focus on its progress and course adjustments to keep it steered in the right direction.

WORD COUNT=6,615

ENDNOTES

¹ General Accounting Office, Force Structure, Army's Efforts to Improve Efficiency of Institutional Forces Have Produced Few Results (Washington, D.C.: U.S. Government Accounting Office, February 1998), 2.

² General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established (Washington, D.C.: U.S. Government Accounting Office, May 2001), 5.

³ Based on FY04 SAMAS Data. Headquarters Department of the Army, Deputy Chief of Operations and Plans, DAMO-FM, "Total Army Analysis, Generating Force in TAA-11, Initial Panel Leaders Meeting", briefing slides, Washington, D.C., Department of the Army, Deputy Chief of Operations and Plans, 24 January 2003, slide 21.

⁴ Department of the Army, Force XXI, Institutional Army Redesign, Army Pamphlet 100-1 (Washington, D.C.: U.S. Department of the Army, 5 March 1998), 3.

⁵ General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established, (Washington, D.C.: U.S. Government Accounting Office, May 2001), 2.

⁶ Headquarters Department of the Army, Deputy Chief of Operations and Plans, DAMO-FM, "Total Army Analysis, Generating Force in TAA-11, Initial Panel Leaders Meeting", slide 21.

⁷ Eric K. Shinseki, Chief of Staff United States Army, Fiscal Year 2003 Defense Authorization Request and Future Years Defense Program, Posture Statement presented to the Committee on Armed Services, United States Senate, 107th Cong., 2d sess. (Washington, D.C.: U.S. Department of the Army, 2002), 2 and 14.

⁸ Donald H. Rumsfeld, 2003 Defense Budget Request, Posture Statement presented to the joint U.S. House and Senate Armed Services Committee, 107th Cong., 2d sess. (Washington, D.C.: U.S. Department of Defense, 2002), 13-14.

⁹ Eric K. Shinseki, Fiscal Year 2003 Defense Authorization Request, 5-6.

¹⁰ Donald H. Rumsfeld, "Prepared Testimony on the 2002 Defense Department Amended Budget To the House and Senate", June 28, 2001; available from <http://www.senate.gov/~armed_services/statemnt/2001/010628rumsfeld.pdf>; Internet; accessed 3 January 2003, 3-4.

¹¹ Donald H. Rumsfeld, "Prepared Testimony on the 2002 Defense Department Amended Budget To the House and Senate", 1.

¹² Gerry J. Gilmore, "Services Need to Balance Risks Better, Rumsfeld Says", American Forces Information Service, 24 August 2001; available from <http://www.defenselink.mil/news/Aug2001/n08242001_200108241.html>; Internet; accessed 14 January 2003.

¹³ General Accounting Office, Lack of Control and Feedback Hinders Army Manpower Management Improvements (Washington, D.C.: U.S. Government Accounting Office, October 1979), 4-5.

¹⁴ This reorganization, in response to political pressures and budget reductions, took place as part of the split of the Continental Army Command into the Training and Doctrine Command (TRADOC) and Forces Command (FORSCOM). Ibid., 5-6.

¹⁵ Ibid., 7.

¹⁶ A two to four year cycle, with four years, or more, being typical. General Accounting Office, Improvements Needed In Army's Determination of Manpower Requirements For Support and Administrative Functions (Washington, D.C.: U.S. Government Accounting Office, May 1979), 5.

¹⁷ GAO, Lack of Control and Feedback, 35-38.

¹⁸ Ibid., 7.

¹⁹ Ibid., 10.

²⁰ GAO, Improvements Needed, 12.

²¹ GAO, Lack of Control and Feedback, 16.

²² GAO, Improvements Needed, 13.

²³ GAO, Lack of Control and Feedback, 16.

²⁴ GAO, Improvements Needed, 13.

²⁵ Department of the Army, Manpower Staffing Standards System, Army Regulation 570-5 (Washington, D.C.: U.S. Department of the Army, 30 June 1989), 6.

²⁶ GAO, Improvements Needed, 17-20.

²⁷ U.S. Army Audit Agency, Managing Workload, Organizations and Staffing (HQ 94-751), (Washington, D.C.: U.S. Department of the Army, 23 June 1994), 55-56.

²⁸ Ibid., 56.

²⁹ Ibid., 9 and 16.

³⁰ This is reflected, in part, in the following MACOM histories that were available but there were at least six prominent MACOM programs: Training and Doctrine Command, Army Material Command, US Army Europe, Forces Command, Pacific Command, and Health Services Command. Five, all but USAREUR, were part of the scope of the Army Audit in endnote 16.

Headquarters United States Army Training and Doctrine Command, TRADOC FY 83-84, A Perspective, (Fort Monroe, VA, 15 June 1983), 11-E-1.

Headquarters United States Army Material Development and Readiness Command, Annual Historical Review, Fiscal Year 1980, (Alexandria, VA, 1 October 1986), 83.

³¹ Department of the Army, Manpower Staffing Standards System, 1-2.

³² Some activities and functions, by their nature, are not candidates for coverage with standards. Examples are stand-alone activities which have no counterpart elsewhere in the Army or functions whose manpower needs must be determined by factors, (i.e., safety, span of control, etc.), other than workload. Army Audit Agency, Managing Workload, 32.

³³ General Accounting Office, Information on the Accuracy of Defense Manpower Requirements (Washington, D.C.: U.S. Government Accounting Office, March 1986), 27.

³⁴ Department of the Army, Manpower Staffing Standards System, 6.

³⁵ Army Audit Agency, Managing Workload, 31-35.

³⁶ *Ibid.*, 10 and 42.

³⁷ *Ibid.*, 39-40.

³⁸ General Accounting Office, Civilian Downsizing, Unit Readiness Not Adversely Affected, But Future Reductions A Concern, Briefing Report to the Chairman, Subcommittee on Military Readiness, Committee on National Security, House of Representatives, (Washington, D.C.: U.S. Government Accounting Office, April 1996), 11 and 29.

³⁹ Army Audit Agency, Managing Workload, 32.

⁴⁰ GAO, Civilian Downsizing, 11.

⁴¹ Army Audit Agency, Managing Workload, 33 and 57.

⁴² *Ibid.*, 31-32.

⁴³ General Accounting Office, Force Structure, Army's Efforts to Improve Efficiency of Institutional Forces Have Produced Few Results, 5.

⁴⁴ General Accounting Office, Army Industrial Facilities, Workforce Requirements and Related Issues Affecting Depots and Arsenals (Washington, D.C.: U.S. Government Accounting Office, November 1998), 20.

⁴⁵ *Ibid.*, Preface.

⁴⁶ U.S. Army Manpower Analysis Agency, "12-Step Method Analysis Handbook", 1 October 1997; available from <<http://www.asamra.army.pentagon.mil/USAMAA/handbook/index.htm>>; Internet; accessed 12 December 2002.

⁴⁷ Department of the Army, Manpower Management, Army Regulation 570-4 (Washington, D.C.: U.S. Department of the Army, 15 May 2000), 15.

⁴⁸ U.S. Army Manpower Analysis Agency, "12-Step Method Analysis Handbook".

⁴⁹ General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established, 11.

⁵⁰ Headquarters, U.S. Army Training and Doctrine Command, ATRM-FT, "U.S. Army Manpower Analysis Agency Manpower Survey of Headquarters TRADOC", briefing slide presentation for Senior Program Resource Advisory Council, Fort Monroe, VA, 25 September 1998.

⁵¹ Acting Deputy Assistant Secretary (Force Management, Manpower & Resources) Robert Bartholomew, III, "Consideration of HQ TRADOC Reclama Issues Regarding the Headquarters, Training and Doctrine Command (TRADOC) Manpower Study", memorandum for Commander, U.S. Army Training and Doctrine Command, Washington, D.C., 5 October 1999.

⁵² General Accounting Office, Army Industrial Facilities, Workforce Requirements and Related Issues Affecting Depots and Arsenals, 4.

⁵³ Army Workload Performance System, "Army Workload Performance System"; available from <<http://www.awps.army.mil/index.htm>>; Internet; accessed 2 February 2003.

⁵⁴ General Accounting Office, Army Industrial Facilities, Workforce Requirements and Related Issues Affecting Depots and Arsenals, 21-22.

⁵⁵ Secretary of the Army Thomas E. White, "FY 2001 Statement of Assurance on Management Controls", info memo for the Secretary of Defense, Washington, D.C., 14 January 2002, Annex B2, "Uncorrected Material Weaknesses", b2-6a.

⁵⁶ Assistant Secretary of the Army, Manpower and Reserve Affairs, "Army Manpower: Current Initiatives and Emerging Concepts," briefing slides, 24 February 2003. available from <<http://www.asamra.army.pentagon.mil/cp26/documents/planningboard/minutes010612/Manpower-Force-Mgmt-Issues.ppt>>; Internet; accessed 24 February 2003.

⁵⁷ GAO, Force Structure, Projected Requirements, 12-15.

⁵⁸ *Ibid.*, 2.

⁵⁹ Headquarters, U.S. Army Training and Doctrine Command, ATRM-FA, "HQDA G3 Proposed Changes to TDA Manpower Management", briefing slide presentation for LTG Larry R. Jordan, TRADOC Deputy Commanding General/Chief of Staff, Fort Monroe, VA, 12 August 2002.

⁶⁰ Headquarters, U.S. Army Training and Doctrine Command, ATRM-FA, "Management of TDA Army Conference", information paper for TRADOC DCSRM, Fort Monroe, VA, 28 August 2002.

⁶¹ Jay D. Aronowitz <Jay.Aronowitz@USAMAA.Belvoir.army.mil>, "RE: Request For Info", electronic mail message to James A. Cooke <jcooke2002@comcast.net>, 3 February 2003.

⁶² GAO, Force Structure, Projected Requirements, 34.

⁶³ General Accounting Office, Defense Management, Army Needs to Address Resource and Mission Requirements Affecting Its Training and Doctrine Command (Washington, D.C.: U.S. Government Accounting Office, February 2003), Highlights.

⁶⁴ Ibid., 15.

⁶⁵ Headquarters Department of the Army, "Total Army Analysis, Generating Force in TAA-11, Initial Panel Leaders Meeting", slide 2.

⁶⁶ Ibid., slide 33.

⁶⁷ GAO, Improvements Needed, v.

⁶⁸ Ellen Helmerson, "Certification and Assistance Update," briefing slides, Fort Belvoir, U.S. Army Manpower Analysis Agency, 22 June 2000; available from <<http://www.asamra.army.pentagon.mil/cp26/documents/planningboard/minutes000620/CERTandASSIST.ppt>>; Internet; accessed 20 January 2003.

⁶⁹ General Accounting Office, Force Structure, Army's Efforts to Improve Efficiency of Institutional Forces Have Produced Few Results, 7.

⁷⁰ Army Audit Agency, Managing Workload, 31.

⁷¹ General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established, 2.

⁷² Donald H. Rumsfeld, "Prepared Testimony on the 2002 Defense Department Amended Budget To the House and Senate", 9.

BIBLIOGRAPHY

- U.S. General Accounting Office, Force Structure, Army's Efforts to Improve Efficiency of Institutional Forces Have Produced Few Results. Washington, D.C.: U.S. Government Accounting Office, February 1998.
- U.S. General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established. Washington, D.C.: U.S. Government Accounting Office, May 2001.
- Headquarters Department of the Army, Deputy Chief of Operations and Plans, DAMO-FM. "Total Army Analysis, Generating Force in TAA-11, Initial Panel Leaders Meeting." Briefing slides. Pentagon: Department of the Army, Deputy Chief of Operations and Plans, 24 January 2003.
- U.S. Department of the Army. Force XXI, Institutional Army Redesign. Army Pamphlet 100-1. Washington, D.C.: U.S. Department of the Army, 5 March 1998.
- U.S. General Accounting Office, Force Structure, Projected Requirements for Some Army Forces Not Well Established. Washington, D.C.: U.S. Government Accounting Office, May 2001.
- Shinseki, Eric. Fiscal Year 2003 Defense Authorization Request and Future Years Defense Program. Posture Statement presented to the Committee on Armed Services, United States Senate, 107th Cong., 2d sess. Washington, D.C.: U.S. Department of the Army, 2002.
- Rumsfeld, Donald. 2003 Defense Budget Request. Posture Statement presented to the Joint U.S. House and Senate Armed Services Committee, 107th Cong., 2d sess. Washington, D.C.: U.S. Department of Defense, 2002.
- Rumsfeld, Donald. "Prepared Testimony on the 2002 Defense Department Amended Budget To the House and Senate." 28 June 2001. Available from <http://www.senate.gov/~armed_services/statemnt/2001/010628rumsfeld.pdf>. Internet. Accessed 3 January 2003.
- Rumsfeld, Donald. "Annual Report to the President and Congress." 2002. Available from <http://www.defenselink.mil/execsec/adr2002/pdf_files/army_rpt.pdf>. Internet. Accessed 6 January 2003.
- Gilmore, Gerry. "Services Need to Balance Risks Better, Rumsfeld Says." 24 August 2001. Available from <http://www.defenselink.mil/news/Aug2001/n08242001_200108241.html>. Internet. Accessed 14 January 2003.
- U.S. General Accounting Office, Lack of Control and Feedback Hinders Army Manpower Management Improvements. Washington, D.C.: U.S. Government Accounting Office, October 1979.
- U.S. General Accounting Office, Improvements Needed In Army's Determination of Manpower Requirements For Support and Administrative Functions. Washington, D.C.: U.S. Government Accounting Office, May 1979.

- U.S. Army Audit Agency. Managing Workload, Organizations and Staffing (HQ 94-751). Washington, D.C.: U.S. Department of the Army, 23 June 1994.
- Headquarters U.S. Army Training and Doctrine Command. TRADOC FY 83-84, A Perspective. Fort Monroe, VA, 15 June 1983.
- Headquarters U.S. Army Material Development and Readiness Command. Annual Historical Review, Fiscal Year 1980. Alexandria, VA, 1 October 1986.
- U.S. General Accounting Office, Information on the Accuracy of Defense Manpower Requirements. Washington, D.C.: U.S. Government Accounting Office, March 1986.
- U.S. Department of the Army. Manpower Staffing Standards System. Army Regulation 570-5. Washington, D.C.: U.S. Department of the Army, 30 June 1989.
- U.S. General Accounting Office, Civilian Downsizing, Unit Readiness Not Adversely Affected, But Future Reductions A Concern. Washington, D.C.: U.S. Government Accounting Office, April 1996.
- U.S. General Accounting Office, Army Industrial Facilities, Workforce Requirements and Related Issues Affecting Depots and Arsenals. Washington, D.C.: U.S. Government Accounting Office, November 1998.
- U.S. Army Manpower Analysis Agency. "12-Step Method Analysis Handbook." 1 October 1997. Available from <<http://www.asamra.army.pentagon.mil/USAMAA/handbook/index.htm>>. Internet. Accessed 12 December 2002.
- U.S. Department of the Army. Manpower Management. Army Regulation 570-4. Washington, D.C.: U.S. Department of the Army, 15 May 2000.
- Headquarters, U.S. Army Training and Doctrine Command, ATRM-FT. "U.S. Army Manpower Analysis Agency Manpower Survey of Headquarters TRADOC." Briefing slide presentation for Senior Program Resource Advisory Council. Fort Monroe: U.S. Army Training and Doctrine Command, 25 September 1998.
- Bartholomew, Robert, III, Acting Deputy Assistant Secretary (Force Management, Manpower & Resources). "Consideration of HQ TRADOC Reclama Issues Regarding the Headquarters, Training and Doctrine Command (TRADOC) Manpower Study." Memorandum for Commander, U.S. Army Training and Doctrine Command. Washington, D.C., 5 October 1999.
- Army Workload Performance System. "Army Workload Performance System." Available from <<http://www.awps.army.mil/index.htm>>. Internet. Accessed 2 February 2003.
- White, Thomas E., Secretary of the Army. "FY 2001 Statement of Assurance on Management Controls." Info memo for the Secretary of Defense. Washington, D.C., 14 January 2002.
- Assistant Secretary of the Army, Manpower and Reserve Affairs. "Army Manpower: Current Initiatives and Emerging Concepts." Briefing slides. 24 February 2003. Available from <<http://www.asamra.army.pentagon.mil/cp26/documents/planningboard/minutes010612/Manpower-Force-Mgmt-Issues.ppt>>. Internet. Accessed 24 February 2003.

Headquarters, U.S. Army Training and Doctrine Command, ATRM-FA. "HQDA G3 Proposed Changes to TDA Manpower Management." Briefing slide presentation for LTG Larry R. Jordan, TRADOC Deputy Commanding General/Chief of Staff. Fort Monroe: U.S. Army Training and Doctrine Command, 12 August 2002.

Headquarters, U.S. Army Training and Doctrine Command, ATRM-FA. "Management of TDA Army Conference." Information paper for TRADOC DCSRM. Fort Monroe, VA, 28 August 2002.

Aronowitz, Jay <Jay.Aronowitz@USAMAA.Belvoir.army.mil>. "RE: Request For Info." Electronic mail message to James A. Cooke <jcooke2002@comcast.net>. 3 February 2003.

U.S. General Accounting Office, Defense Management, Army Needs to Address Resource and Mission Requirements Affecting Its Training and Doctrine Command. Washington, D.C.: U.S. Government Accounting Office, February 2003.

Helmerson, Ellen. "Certification and Assistance Update." Briefing slides. Fort Belvoir: U.S. Army Manpower Analysis Agency, 22 June 2000. Available from <<http://www.asamra.army.pentagon.mil/cp26/documents/planningboard/minutes000620/CERTandASSIST.ppt>>. Internet. Accessed 20 January 2003.